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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,849	05/03/2002	Janne Laakso	4925-214PUS	2793

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EXAMINER	
MILORD, MARCEAU	
ART UNIT	PAPER NUMBER
2682	

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/070,849	LAAKSO ET AL.	
	Examiner	Art Unit	
	Marceau Milord	2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 May 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5-7,11,15,17,19 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☒ Claim(s) *2-4,8-10,12-14,16 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 May 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3-11-2002*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 5-6, 7, 11, 15, 17, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hakkinen (US Patent No 5839056) in view of Salonaho et al (US Patent No 6317600 B1).

Regarding claim 1, Hakkinen et al discloses a method for estimating (figs. 2-3) the interference power increase in the uplink direction due to a transaction in a spread spectrum cellular telecommunication system (col. 2, line 47- col. 3, line 42), characterized in that the interference: power increase: estimate is calculated at least partly on the basis of current fractional load (col. 6, line 49- col. 7, line 31), current received interference power level (col. 4, lines 25-65; col. 5, lines 4-53).

However, Hakkinen et al does not specifically disclose the feature of a load factor, which is calculated essentially on the basis of the chip rate, the bit rate of the new transaction, and the estimated required signal-to-interference ratio for the service type of the new transaction.

On the other hand, Salonaho et al, from the same field of endeavor, discloses a method for load control and a radio system. The load result is formed either by comparing a signal strength of desired signals and a combined total strength of interferences and the desired signals or by weighting a signal to interference ratio with a bandwidth or a data transmission rate. The load result is compared with a threshold value of the highest load level allowed of a cell. The data transmission rate in the cell is increased if the load result is smaller than the threshold value. The data transmission rate in the cell is reduced and the establishment of new connections is avoided if the load result exceeds the threshold value (col. 2, line 23-col. 3, line 5; col. 4,line 40-col. 5, line 57). Furthermore, the load of the receiver increases or decreases. The comparison can be performed by dividing or calculating the difference (col. 5, line 57- col. 6, line 61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Salonaho to the system of Hakkinen in order to improve the connection quality and balance the load by changing the telecommunication rate.

Regarding claim 5, Hakkinen et al as modified discloses a method for estimating (figs. 2-3) the interference power increase in the uplink direction due to a transaction in a spread spectrum cellular telecommunication system (col. 2, line 47- col. 3, line 42), characterized in that the transaction is a new connection (col. 4, line 55- col. 5, line 23).

Regarding claim 6, Hakkinen et al as modified discloses a method for estimating (figs. 2-3) the interference power increase in the uplink direction due to a transaction in a spread

spectrum cellular telecommunication system (col. 2, line 47- col. 3, line 42 characterized in that the transaction is the transmission of a data packet (col. 5, line 40- col. 6, line 48).

Regarding claim 7, Hakkinen et al discloses an admission control method (figs. 2-3) in a spread spectrum cellular telecommunication system (col. 2, line 47- col. 3, line 42), characterized in that the method comprises steps in which the current received interference power is measured at a receiver, the interference power increase due to a new requested connection is estimated at least partly on the basis of current fractional load (col. 6, line 49- col. 7, line 31), current received interference power level (col. 4, lines 25-65; col. 5, lines 4-53).

However, Hakkinen et al does not specifically disclose the feature of a load factor, which is calculated essentially on the basis of the chip rate, the bit rate of the new connection, and the estimated required signal to interference ratio for the service type of the new connection, the sum of said current received interference power and said interference power increase is compared to a threshold, and resources are allocated for the new requested connection, if said sum is smaller than said threshold.

On the other hand, Salonaho et al, from the same field of endeavor, discloses a method for load control and a radio system. The load result is formed either by comparing a signal strength of desired signals and a combined total strength of interferences and the desired signals or by weighting a signal to interference ratio with a bandwidth or a data transmission rate. The load result is compared with a threshold value of the highest load level allowed of a cell. The data transmission rate in the cell is increased if the load result is smaller than the threshold value. The data transmission rate in the cell is reduced and the establishment of new connections is avoided if the load result exceeds the threshold value (col. 2, line 23-col. 3, line 5; col. 4,line 40-

col. 5, line 57). Furthermore, the load of the receiver increases or decreases. The comparison can be performed by dividing or calculating the difference (col. 5, line 57- col. 6, line 61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Salonaho to the system of Hakkinen in order to improve the connection quality and balance the load by changing the telecommunication rate.

Regarding claim 11, Hakkinen et al discloses a method for scheduling data packets (figs. 2-3) in a spread spectrum cellular telecommunication system (col. 2, line 47- col. 3, line 42), characterized in that the method comprises steps in which the current received interference power is measured at a receiver, the interference power increase due to a transmission of a new packet is estimated at least partly on the basis of current fractional load (col. 6, line 49- col. 7, line 31), current received interference power level (col. 4, lines 25-65; col. 5, lines 4-53).

However, Hakkinen et al does not specifically disclose the feature of a load factor, which is calculated essentially on the basis of the chip rate, the bit rate to be used in transmission of the packet, and the estimated required signal-to-interference ratio for the successful transmission and reception of the packet, the sum of said current received interference power and said interference power increase is compared to a threshold, and resources are allocated for the transmission of the packet, if said sum is smaller than said threshold.

On the other hand, Salonaho et al, from the same field of endeavor, discloses a method for load control and a radio system. The load result is formed either by comparing a signal strength of desired signals and a combined total strength of interferences and the desired signals or by weighting a signal to interference ratio with a bandwidth or a data transmission rate. The load result is compared with a threshold value of the highest load level allowed of a cell. The

data transmission rate in the cell is increased if the load result is smaller than the threshold value. The data transmission rate in the cell is reduced and the establishment of new connections is avoided if the load result exceeds the threshold value (col. 2, line 23-col. 3, line 5; col. 4,line 40-col. 5, line 57). Furthermore, the load of the receiver increases or decreases. The comparison can be performed by dividing or calculating the difference (col. 5, line 57- col. 6, line 61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Salonaho to the system of Hakkinen in order to improve the connection quality and balance the load by changing the telecommunication rate.

Regarding claim 15, Hakkinen et al discloses a system (figs. 2-3) for estimating the interference power increase in the uplink direction due to a new transaction in a spread spectrum cellular telecommunication system (col. 2, line 47- col. 3, line 42), characterized in that the system comprises means for calculating the interference power increase estimate at least partly on the basis of current fractional load (col. 6, line 49- col. 7, line 31), current received interference power level (col. 4, lines 25-65; col. 5, lines 4-53).

However, Hakkinen et al does not specifically disclose the feature of a load factor ΔL, and means for calculating said load factor essentially on the basis of the chip rate, the bit rate of the new transaction, and the estimated required signal-to-interference ratio for the service type of the new transaction.

On the other hand, Salonaho et al, from the same field of endeavor, discloses a method for load control and a radio system. The load result is formed either by comparing a signal strength of desired signals and a combined total strength of interferences and the desired signals or by weighting a signal to interference ratio with a bandwidth or a data transmission rate. The

load result is compared with a threshold value of the highest load level allowed of a cell. The data transmission rate in the cell is increased if the load result is smaller than the threshold value. The data transmission rate in the cell is reduced and the establishment of new connections is avoided if the load result exceeds the threshold value (col. 2, line 23-col. 3, line 5; col. 4,line 40-col. 5, line 57). Furthermore, the load of the receiver increases or decreases. The comparison can be performed by dividing or calculating the difference (col. 5, line 57- col. 6, line 61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Salonaho to the system of Hakkinen in order to improve the connection quality and balance the load by changing the telecommunication rate.

Regarding claim 17, Hakkinen et al discloses a network element of a cellular telecommunications network (figs. 2-3;col. 2, line 47- col. 3, line 42), characterized in that the network element comprises means for calculating an interference power increase estimate due to a new transaction at least partly on the basis of current fractional load (col. 6, line 49- col. 7, line 31), current received interference power level (col. 4, lines 25-65; col. 5, lines 4-53).

However, Hakkinen et al does not specifically disclose the feature of a load factor ΔL, and means for calculating said load factor essentially on the basis of the chip rate, the bit rate of the new transaction, and the estimated required signal to interference ratio for the service type of the new transaction.

On the other hand, Salonaho et al, from the same field of endeavor, discloses a method for load control and a radio system. The load result is formed either by comparing a signal strength of desired signals and a combined total strength of interferences and the desired signals or by weighting a signal to interference ratio with a bandwidth or a data transmission rate. The

load result is compared with a threshold value of the highest load level allowed of a cell. The data transmission rate in the cell is increased if the load result is smaller than the threshold value. The data transmission rate in the cell is reduced and the establishment of new connections is avoided if the load result exceeds the threshold value (col. 2, line 23-col. 3, line 5; col. 4,line 40-col. 5, line 57). Furthermore, the load of the receiver increases or decreases. The comparison can be performed by dividing or calculating the difference (col. 5, line 57- col. 6, line 61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Salonaho to the system of Hakkinen in order to improve the connection quality and balance the load by changing the telecommunication rate.

Regarding claim 19, Hakkinen et al as modified discloses a network element of a cellular telecommunications network (figs. 2-3;col. 2, line 47- col. 3, line 42), characterized in that the network element is a radio network controller (col. 3, lines 5-52).

Regarding claim 20, Hakkinen et al as modified discloses a network element of a cellular telecommunications network (figs. 2-3;col. 2, line 47- col. 3, line 42), characterized in that the network element is a radio network controller of the UMTS cellular system (col. 3,lines 13-60).

Allowable Subject Matter

3. Claims 2-4, 8-10, 12-14, 16, 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Palmer et al US Patent No 6791959 B1 discloses a method for improving communication performance in a wireless communication system where the wireless communication system has at least one mobile wireless communication device and a plurality of transmitter/receiver sites.

Hamalainen et al US Patent No 6289217 B1 discloses a radio connection, which is adapted to an environment changing over the connection in a cellular radio system where the radio traffic between the base station and the mobile stations.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 703-306-3023. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARCEAU MILORD

Marceau Milord

Examiner

Art Unit 2682

MARCEAU MILORD
PRIMARY EXAMINER